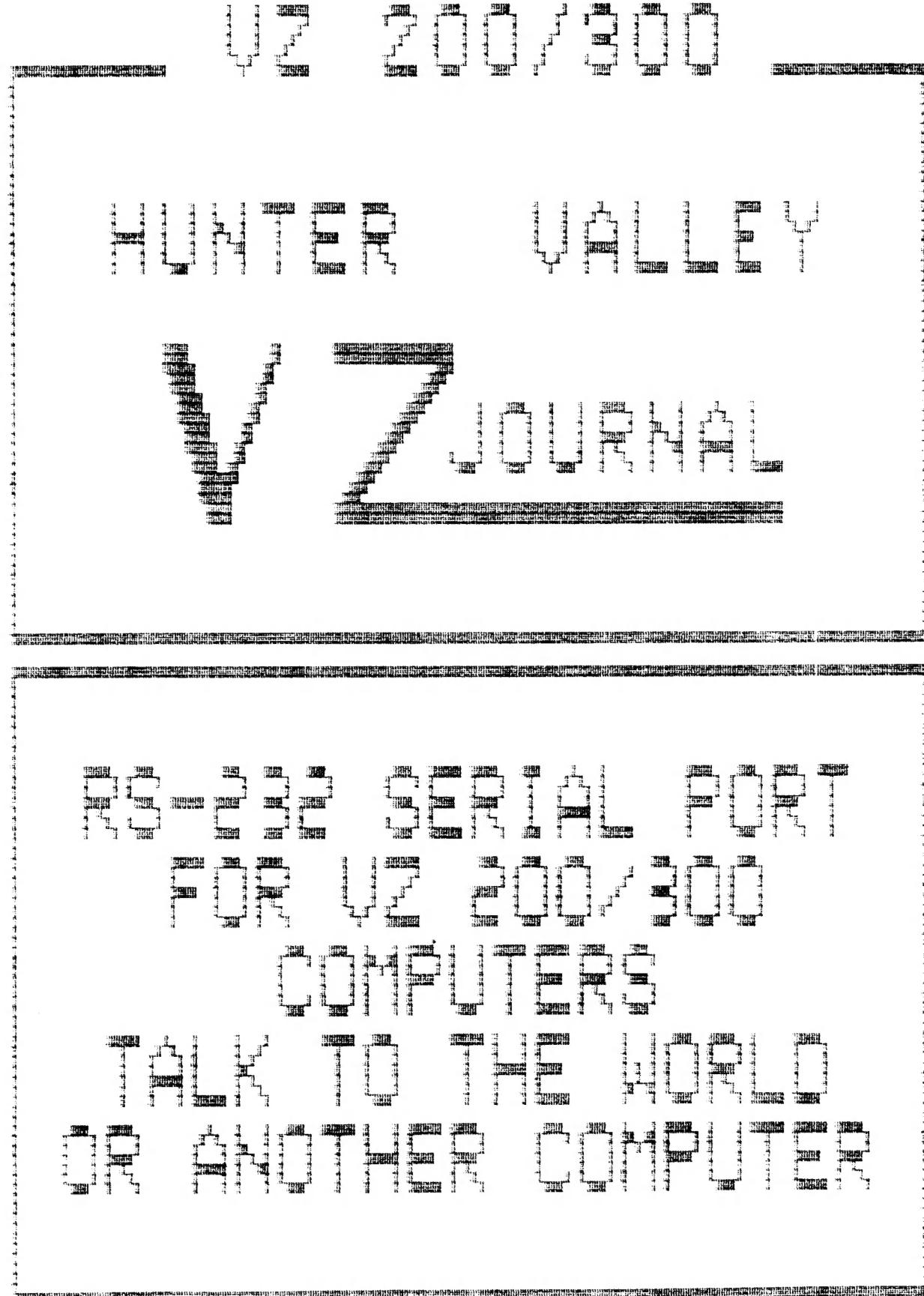


MARCH/APRIL 1990

ISSUE # 29



PRODUCED BI-MONTHLY BY H.V.VZ.U.G.

THE CIRCUIT DIAGRAMS WERE DONE WITH A CAD (COMPUTER AIDED DESIGN) PROGRAM ON AN IBM PC COMPATIBLE COMPUTER. THE TEXT WAS COMPILED USING DISK WORD PROCESSOR PATCH 3.3 AND HI-RES SCREEN DUMPS WITH LARRY TAYLOR'S PRINTER PATCH V1.4.

* * * NEWCASTLE COMPUTER SHOW * * *

THE ANNUAL NEWCASTLE COMPUTER SHOW WILL BE HELD SEPTEMBER 20-22. I'VE RECEIVED A COUPLE EXCELLENT DEMONSTRATION PROGRAMS SO FAR AND WE STILL NEED MORE IN WAY OF NEW HI-RES SCREENS, MUSIC DEMOS, ETC. ALL HELP WELCOME AND VERY MUCH APPRECIATED. ED.

HELP - SELL & TELL -- PAGE 3
APOLOGIES, VZ DISKMAG PRICE DROP, BOOKS AND VZ EQUIPMENT FOR SALE.

RAM BASIC BY ROBERT QUINN PAGES 4-5

THIS EXTENDED BASIC BY ROBERT WILL GIVE YOU ALL HIDDEN VZ COMMANDS JUST BY TYPING THEM IN AND CAN ALSO BE MERGED WITH SUITE 2 TO GIVE A REALLY POWERFUL UTILITY.

DISK DRIVE HINTS & TIPS PAGE 5

MOVE BY BOB KITCH PAGE 6-10

PERSONS WITHOUT AN EDITOR ASSEMBLER OR WHO DON'T WANT TO DO ALL THE TYPING CAN PURCHASE THE COMPLETE SUITE OF PROGRAMS FOR \$20.00 FROM:

Bob Kitch 7 EURELLA STREET KENMORE QLD 4069 (07) 378 3745

CHANGE GRAPHICS BY B. GREEVE 10-12

THIS UTILITY BY BRIAN WILL ALLOW YOU TO LPRINT OR LLIST INVERSE AND GRAPHIC CHARACTERS WITH A CHARACTER OF YOUR CHOICE.

COMPUTERS PLUS PRINTERS PAGE 13

JUST SOME GENERAL OBSERVATIONS ABOUT TRYING TO MATCH A VZ WITH A PRINTER AND SOME PROBLEMS AND HOW TO OVERCOME THEM.

VZ RS-232 SERIAL INTERFACE 14-18
BY PETER & ANDY HICKMAN

AT LONG LAST A TRUE RS-232 PORT FOR THE VZ WHICH IS DISK BASED AND SIMPLE TO CONSTRUCT TOGETHER WITH THE SOFTWARE YOU CAN TALK TO THE WORLD VIA A MODEM OR TO ANOTHER COMPUTER. THE NEW VZ MODEM PROGRAM AND FAST M/C EDITOR/ASSEMBLER ARE AVAILABLE FROM PETER HICKMAN. SEE HIS SOFTWARE AD ON PAGE 18.

USER GROUPS * NEWS * SUBS PAGE 19

SOFTWARE FOR SALE - PATCH3.3 PAGE 20
EXTENDED DOS & MENU-FILE COPIER

BELIEVE IT OR NOT . . .

EARLY THIS YEAR I VISITED BOTH VICTORIA AND QUEENSLAND AND NOW AT LONG LAST I UNDERSTAND WHY THEY CALL NEW SOUTH WALES THE PREMIER STATE.

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29/3 *** HELP - SELL & TELL ***

APOLOGIES -- -

AS A RESULT OF MY CONTINUING MEDICAL AND PERSONAL PROBLEMS I'VE SLOWED DOWN SOMEWHAT AND I'M WAY BEHIND IN JOURNAL PRODUCTION. I WANT TO ASSURE OUR SUBSCRIBERS THAT I HAVE NO PLANS TO CEASE PRODUCTION OF THE JOURNAL AND IN DUE COURSE ITS PRODUCTION WILL CATCH UP.

LATE IN JUNE I FINISHED A 10 WEEK COMPUTER OFFICE APPLICATION COURSE USING AN IBM PC COMPATIBLE WITH A FINAL MARK OF 97%. IT WAS HARD GOING, BUT THE RESULTS WERE WELL WORTH THE EFFORT AND BEING ABLE TO STUDY AT HOME WAS A VERY BIG HELP IN ACHIEVING ABOVE RESULTS.

VZ DISK MAGAZINE - \$20.00 PER ANUM

JASON OAKLEY WISHES TO ADVISE EVERYONE THAT HE HAS LOWERED THE SUBSCRIPTION COST FOR ONE YEAR TO \$20.00 WHICH MAKES IT MUCH BETTER VALUE FOR THE MONEY.

* * * NEW - FOR SALE - NEW * * *

BOOKS - VPROGRAMMEZ-VZ-VZ - \$10.50 EA.
SURFACE POSTAGE IN AUSTRALIA AND NEW ZEALAND IS INCLUDED IN PRICE
THIS IS MY OWN SPECIAL BOOK FOR BEGINNERS AND ADVANCED VZERS.

BEGINNER'S GUIDE TO THE VZ200/300 EDITOR ASSEMBLER
BY PETER SCHAPER - NEW - \$20.00 EACH

THIS BOOK EXPLAINS IN SIMPLE LANGUAGE HOW TO USE THE DICK SMITH EDITOR ASSEMBLER UNIT. THE LITTLE INSTRUCTION BOOKLET THAT COMES WITH THE TAPE IS NOT VERY EASY TO UNDERSTAND TO MANY FOLK. PETER USES SOME SHORT M/L ROUTINES TO EXPLAIN THE USE OF THE ED/ASS BUT HE DOES NOT TEACH YOU M/L AS SUCH.

AS I MENTIONED PREVIOUSLY IN LE'VZ, THE BOOK WILL BE PRINTED AND PUT TOGETHER WHEN ORDERED. I DO THIS AS SOON AS POSSIBLE, BUT THERE WILL BE A DELAY. THERE ARE FIFTY EIGHT PAGES OF A4 SIZE SO IT IS GOOD VALUE FOR MONEY.

CONTACT: MR JOHN D'ALTON 39 AGNES STREET TOOOWONG QLD 4066
PHONE - (07) 371 3707

FOR SALE -- -

1 OFF VZ200 & AQUARIUS DATASSETTE - \$50.00 PLUS \$5.00 POST AND PACKING.
1 OFF VZ200, VZ DATASSETTE, VZ200 16K MEMORY EXPANSION & PRINTER INTERFACE - \$100.00 PLUS \$15.00 POST AND PACKING.

ON BEHALF OF ALEX TAYLOR CONTACT:
JOE LEON 22 DRURY STREET WALLSEND 2287 (049) 51 2756

FOR SALE -- -

1 OFF ORIGINAL VZ 300 GAMES DISK # 4 - \$15.00
(INCLUDES DUEL, VZ CHESS, HAMBURGER SAM AND LUNAR LANDER)

1 OFF DOT MATRIX PRINTER PATCH V1.4 (DISK) BY LARRY TAYLOR - \$8.00
(ALLOWS HI-RES SCREEN DUMPS, GRAPHICS AND INVERSE PRINTOUT)

CONTACT JOE LEON 22 DRURY STREET WALLSEND 2287 (049) 51 2756

DISCLAIMER - EVERY EFFORT IS MADE TO INSURE THE ACCURACY OF INFORMATION CONTAINED WITHIN BE IT GENERAL, TECHNICAL, PROGRAMMING, ETC. NO RESPONSIBILITY CAN BE ACCEPTED BY HUNTER VALLEY VZ USERS' GROUP OR AUTHOR AS A RESULT OF APPLYING SUCH INFORMATION IN PRACTICE.

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2 ****
4 * RAM RESIDENT EXTENDED BASIC FOR VZ 200/300 COMPUTERS *
6 ****
8
10 'WHEN RUN, THIS PROGRAM WILL COPY FROM ROM TO RAM (AT TOP OF
20 'MEMORY) THE WORD TABLE, MOST OF THE LIST ROUTINE AND THE
30 'INPTT SCAN TOKENISER ROUTINE, AND MAKE MODIFICATIONS THAT
40 'WILL FORCE YOUR VZ TO USE THE RAM WORD TABLE FOR LIST,
50 'LLIST AND KEYBOARD ENTRY OF DIRECT COMMANDS AND BASIC LINES.
60 'A LIST WILL DISPLAY OF ALL THE EXTRA BASIC WORDS THAT HAVE
70 'BEEN RESTORED TO THE VZ WORD TABLE.
80 'WHEN THE PROGRAM STOPS RUNNING YOU CAN NEW YOUR VZ AND ENTER
90 'PROGRAMS THAT MAKE USE OF THESE NEW BASIC WORDS, OR USE THEM
100 'AS DIRECT COMMANDS, USING CORRECT SYNTAX AS PER THE TRS-80
110 'COMPUTER.
115 'RAMBASIC CAN BE USED ALONE AS AN EXTENDED BASIC,
120 'OR IT CAN BE APPENDED TO SUITE2: SIMPLY LOAD YOUR COPY
130 'OF SUITE2 AND TYPE IN THE LINES OF RAMBASIC, BUT
140 'DO NOT ENTER ANY OF THE REM LINES ('') IN THIS PROGRAM WITH
150 'LINE NUMBERS LESS THAN 200.
160 'SUITE2 WITH RAMBASIC APPENDED TO IT SHOULD THEN BE SAVED
170 'AS SUITE3.
180 'RUNNING SUITE3 WILL GIVE YOU ACCESS TO ALL THE FACILITIES
190 'OF SUITE2 AND THE EXTENDED BASIC OF RAMBASIC.
198 '
599 'LOWER TOP OF MEMORY ****
600 A=(PEEK(30897)+PEEK(30898)*256)-999:B=A/256:C=A-B%*256
610 POKE30897,C%:POKE30898,B%:CLEAR50
620 A=PEEK(30897)+PEEK(30898)*256+1:E=65536
629 'SET UP LDIR COPY ROUTINE ****
630 FORR=29184TO9+11:READC%:B=B+C%:POKER,C%:NEXT
640 B%=A/256:C%=A-B%*256:POKE29188,C%:POKE29189,B%
649 'COPY WORD TABLE TO RAM: A TO A+465 ****
650 POKE30862,0:POKE30863,114:D=USR(0)
659 'MODIFY RAM WORD TABLE ****
660 FORR=1TO19:B%=1:READB:READA$:PRINTA$,
670 FORC%=A+B-ETOCC%+LEN(A$)-1:POKEC%,ASC(MIDS(A$,B%,1)):B%=B%+1
680 NEXT:NEXT
689 'MAIN LIST: A+466 TO A+612 ****
690 D=A+466:B%=D/256:C%=D-B%*256:POKE29188,C%:POKE29189,B%
700 POKE29185,51:POKE29186,43:POKE29191,147:POKE29192,0:D=USR(0)
709 'LIST SUBROUTINE: A+613 TO A+639 ****
710 D=A+613:B%=D/256:C%=D-B%*256:POKE29188,C%:POKE29189,B%
720 POKE29185,157:POKE29186,46:POKE29191,27:D=USR(0)
729 'SERVICE ROUTINE FOR DOS EXIT: A+640 TO A+653 ****
730 FORR=A+640-ETO9+653-E:READB:POKER,B:NEXT:B%=(A+640)/256
740 C%=(A+640)-B%*256:POKE31199,195:POKE31200,C%:POKE31201,B%
749 'MODIFYING LIST ****
750 FORR=1TO11:READB:READC%:B%=(A+C%)/256:C%=(A+C%)-B%*256
760 POKEA+B-E,C%:POKEA+B+1-E,B%:NEXT
770 POKEA+483-E,0:POKEA+484-E,0:POKEA+485-E,0
779 'INPUT SCAN JUMP VECTOR ROUTINE: A+654 TO A+675 ****
780 FORR=A+654TOA+675:READB:POKER-E,B:NEXT
790 B%=(A+676)/256:C%=(A+676)-B%*256
800 POKEA+668-E,C%:POKEA+669-E,B%
809 'INPUT SCAN: A+676 TO A+704 ****
810 D=A+676:B%=D/256:C%=D-B%*256:POKE29188,C%:POKE29189,B%
820 POKE29185,130:POKE29186,26:POKE29191,26:POKE29192,0:D=USR(0)
830 D=A+705:B%=D/256:C%=D-B%*256:POKEA+700-E,C%:POKEA+701-E,B%
840 POKEA+702-E,195:POKEA+703-E,156:POKEA+704-E,26

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849 INPUT SCAN TOKENISER: A+705 TO A+912 ****
850 POKE29188,C%:POKE29189,B%:POKE29185,192
860 POKE29186,27:POKE29191,208:POKE29192,0:D=USR(0)
869 MODIFYING INPUT SCAN TOKENISER ****
870 FORR=1TO11:READB:READC%:B%=(A+C%)/256:C%=(A+C%)-B%*256
880 POKEA+B-E,C%:POKEA+B+1-E,B%:NEXT
889 INITIALISE JUMP VECTOR ****
890 B%=(A+654)/256:C%=(A+654)-B%*256
900 POKE29184,C%:POKE29185,B%:POKE29186,42:POKE29187,0
910 POKE29188,114:POKE29189,34:POKE29190,4:POKE29191,120
920 POKE29192,201:POKE30862,2:B=USR(0)
930 POKE30862,74:POKE30863,30
998
999 LDIR ****
1000 DATA33,80,22,17,0,0,1,210,1,237,176,201
1009 WORDS: FIRST CHARACTER OF EACH WORD IS INVERSE ****
1010 DATA20,"RANDOM",102,"DEFINT",108,"EFSNG",114,"EFD8L",133
1020 DATA"RESUME",142,"IN",230,"DELETE",236,"AUTO",271,"ARPTR"
1030 DATA280,"ERL",283,"ERR",286,"STRINGS",308,"EM",350,"RE"
1040 DATA356,"EOS",417,"INT",421,"NSNG",425,"MDBL",429,"IX"
1049 LIST & TERMINAL INPUT DOS EXIT SERVICE ROUTINE ****
1050 DATA8,241,254,43,32,4,8,195,0,0,8,195,123,34
1059 LIST MODIFICATIONS DATA ****
1060 DATA519,541,525,532,561,613,585,0,591,587,608,598,616,635
1070 DATA620,552,623,563,633,552,648,486
1079 INPUT SCAN VECTOR ROUTINE ****
1080 DATA217,8,225,124,254,26,32,8,125,254,130,32,3,33,0,0,229,8
1090 DATA217,195,147,66
1099 TOKENISER MODIFICATIONS DATA ****
1100 DATA721,860,727,888,731,894,739,860,746,860,756,860,786,783
1110 DATA802,826,878,717,760,-1,764,830

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DISK DRIVE HINTS & TIPS

HINT 1 - DRIVE HEAD BANGING

SINGLE DRIVE USERS IF YOU WANT TO STOP YOUR DRIVE BANGING AT POWER UP OR RESET THEN PLUG LEAD FROM DRIVE INTO DRIVE 2 SOCKET ON DISK CONTROLLER AND IT WILL BANG NO MORE. DON'T FORGET TO TYPE IN DRIVE 2 OR ACTIVATE IT FROM WITHIN SOFTWARE. ROBERT QUINN.

HINT 2 - HEAD PRESSURE PAD PROBLEMS

IF FOR SOME REASON YOU HAVE TROUBLE INSERTING DISK IN DRIVE, NEVER USE FORCE OR DAMAGE CAN RESULT. THE SAME GOES IF YOU'RE REMOVING DISK AND IT WON'T COME OUT. IF YOU FORCE IT IN OR OUT THEN YOU COULD DAMAGE OR TEAR OFF FELT PRESSURE PAD RENDERING DRIVE USELESS. TAKE DRIVE COVER OFF AND FREE DISK GENTLY AS FELT PRESSURE PADS ARE EXTREMELY DIFFICULT TO BUY.

HINT 3 - INPUT/OUTPUT ERRORS

ERRATIC DRIVE BEHAVIOUR AND INPUT/OUTPUT ERRORS CAN OCCUR IF DRIVE/S IS/ARE TOO CLOSE TO TV SET'S OR MONITOR'S MAGNETIC FIELD OR LARGE METAL OBJECTS. ANOTHER PROBLEM AREA IS IF DRIVE, POWER OR OTHER LEADS CROSS EACH OTHER CAUSING SIGNAL INTERFERENCE. PARALLEL LEADS NO PROBLEM. PETER HICKMAN.

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00001 ;
00002 ;SOURCE:MOVE
00003 ;ORIGIN:0BC00H
00004 ;OBJECT:MOVEUP
00005 ;
00006 ;SCREEN REPLACEMENT SUBS.
00007 ; BY BOB KITCH.
00008 ; 25/APR./89
00009 ;
00010 ;
00011 ;
00012 ;
00013 VRAM EQU 7000H
00014 ;START OF VIDEO SCREEN.
00015 SSCN EQU 08200H
00016 ;START OF SCREEN BUFFER.
00017 SZSC EQU 0800H
00018 ;SIZE OF SCREEN.
00019 HSZC EQU 0400H
00020 ;HALF SIZE SCREEN.
00021 ESCR EQU SSCN+SZSC
00022 ;END OF SCREEN BUFFER + 1.
00023 LLEN EQU 20H
00024 ;LINE LENGTH IN BYTES.
00025 NLIN EQU 40H
00026 ;NUMBER OF LINES.
00027 BIG EQU 0FFFFH+1
00028 ;EQ. TO 655360.
00029 ZERO EQU 00H
00030 ;ZERO FOR OFFSETS.
00031 SBF1 EQU 0C000H
00032 ;START OF PICTURE BUFFERS.
00033 SBF2 EQU SBF1+SZSC
00034 SBF3 EQU SBF2+SZSC
00035 SBF4 EQU SBF3+SZSC
00036 SBF5 EQU SBF4+SZSC
00037 SBF6 EQU SBF5+SZSC
00038 SBF7 EQU SBF6+SZSC
00039 SBF8 EQU SBF7+SZSC
00040 DLAY EQU 4038H
00041 ;DELAY ROUTINE IN DOS.
00042 DURD EQU 22H
00043 ;DELAY DURATION IN MSEC.
00044 TURN EQU 0C9H
00045 ;OPCODE FOR RETURN.
00046 JMP EQU 0C3H
00047 ;OPCODE FOR JUMP.
00048 IVEC EQU 7870H
00049 ;3 BYTE INTERRUPT VECTOR.
00050 ;
00051 ;
00052 ;JUMP TABLE FOR 9 PIC MOVES.
00053 STRT JP SC0
00054 JP SC1
00055 JP SC2
00056 JP SC3
00057 JP SC4
00058 JP SC5
00059 JP SC6
00060 JP SC7
00061 JP SC8
00062 ;
00063 ;
00064 ;SCREEN 0 - SPLAT.
00065 SC0 CALL SAVR
00066 ;SAVE REGISTERS.
00067 LD HL,SBF1
00068 ;SOURCE - START OF BUFFER.
00069 LD DE,SSCN
00070 ;DEST - START OF SCREEN.
00071 LD BC,SZSC
00072 ;SIZE - SCREEN FULL.
00073 LDIR
00074 ;MOVE IT.
00075 CALL DPLY
00076 ;DISPLAY AND PAUSE.
00077 CALL RESR
00078 ;RESTORE REGISTERS.
00079 RET
00080 ;FINISH
00081 ;
00082 ;
00083 ;SAVE REGISTERS AND DISABLE
00084 ;INTERRUPTS FOR CALCULATIONS
00085 ;AND MOVES.
00086 SAVR DI
00087 EX (SP),HL
00088 ;PUT RET ADDR INTO HL & SAVE
00089 ;HL - DOESN'T CHANGE SP.
00090 PUSH DE
00091 PUSH BC
00092 PUSH AF
00093 PUSH HL
00094 ;PUT RET ADDR. ON TOP.
00095 ;
00096 ;
00097 ;RESET HL TO ENTRY VALUE.
00098 LD HL,11
00099 ;2 TIMES NO. OF REGS. + 3
00100 ADD HL,SP
00101 ;POINT TO H-VALUE IN STACK.
00102 PUSH AF
00103 ;SAVE AF REG.
00104 LD A,(HL)
00105 ;AND PUT IN A REG.
00106 DEC HL
00107 ;NOW POINT TO L-VALUE.
00108 LD L,(HL)
00109 ;AND PUT IN L REG.
00110 LD H,A
00111 ;MOVE H-VALUE.
00112 POP AF
00113 ;RESTORE AF REG.
00114 RET
00115 ;
00116 ;
00117 ;RESTORE REGISTERS AND
00118 ;ENABLE INTERRUPTS FOR
00119 ;RETURN TO BASIC.
00120 RESR POP HL
00121 ;GET RET ADDR.
00122 POP AF
00123 POP BC
00124 POP DE

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00125 EX ..(SP),HL	00187 POP HL
00126 ;RESTORE HL & PUT RET ADDR.	00188 POP BC
00127 ;ON STACK. ---	00189 ;RESTORE LINE COUNTER.
00128 EI	00190 DJNZ NLN1
00129 RET	00191 ;WHOLE SCREEN MOVED?
00130 :	00192 POP IY
00131 :	00193 POP IX
00132 ;SCREEN 1 - OPEN-UP.	00194 CALL RESR
00133 ;USE STACK TO STORE UPPER	00195 ;RESTORE REGS.
00134 ;HALF POINTERS.	00196 RET
00135 ;USE IX AND IY REGS. TO	00197 ;FINISH.
00136 ;STORE LOWER HALF POINTERS.	00198 ;
00137 SC1 CALL SAVR	00199 ;
00138 ;SAVE REGISTERS.	00200 ;SCREEN 2 - ROLL DOWN.
00139 PUSH IX	00201 ;NOTE THAT SCREENS 2 AND 3
00140 PUSH IY	00202 ;ARE INTERCHANGED IN
00141 LD HL,SBF1+HSZC	00203 ;DISPLAY SEQUENCE.
00142 ;PT. TO START OF LOWER-HALF.	00204 SC2 CALL SAVR
00143 LD DE,SSCN+HSZC	00205 ;SAVE REGS.
00144 ;PT. TO CORRESPONDING DEST.	00206 LD HL,SBF3
00145 PUSH HL	00207 ;SOURCE.
00146 ;PUT SOURCE HL INTO IX.	00208 LD DE,SSCN
00147 POP IX	00209 ;DESTINATION.
00148 PUSH DE	00210 LD B,NLIN
00149 ;PUT DEST. DE INTO IY.	00211 ;LINE COUNTER.
00150 POP IY	00212 NLN2 PUSH BC
00151 DEC HL	00213 ;SAVE LINE COUNTER.
00152 ;PT. TO END OF UPPER-HALF.	00214 LD BC,LLEN
00153 DEC DE	00215 ;SIZE - ONE FULL LINE.
00154 ;PT. TO CORRESPONDING DEST.	00216 LDIR
00155 LD B,20H	00217 ;MOVE IT.
00156 ;HALF NO. OF SCREEN LINES.	00218 CALL DPLY
00157 NLN1 PUSH BC	00219 ;DISPLAY AND PAUSE.
00158 ;SAVE LINE COUNTER.	00220 POP BC
00159 LD BC,LLEN	00221 ;RESTORE LINE COUNTER.
00160 ;SIZE - 1 LINE.	00222 DJNZ NLN2
00161 LDIR	00223 ;SCREEN FULL?
00162 ;MOVE IT - UPPER HALF LINE.	00224 CALL RESR
00163 PUSH HL	00225 ;RESTORE REGS.
00164 ;SAVE PTR. ON STACK.	00226 RET
00165 PUSH DE	00227 ;FINISH
00166 ;SAVE PTR. ON STACK.	00228 ;
00167 PUSH IX	00229 ;
00168 ;RESTORE LOWER HALF SOURCE.	00230 ;SCREEN 3 - PUSH DOWN.
00169 POP HL	00231 SC3 CALL SAVR
00170 PUSH IY	00232 ;SAVE REGS.
00171 ;RESTORE LOWER HALF DEST.	00233 LD HL,SBF4-1
00172 POP DE	00234 ;SOURCE - END OF SBF3.
00173 LD BC,LLEN	00235 - LD B,NLIN+1
00174 ;SIZE - 1 LINE.	00236 ;LINE COUNTER.
00175 LDIR	00237 NSN3 PUSH BC
00176 ;MOVE IT - LOWER HALF LINE.	00238 ;SAVE LINE COUNTER.
00177 PUSH HL	00239 LD DE,ESCN-1
00178 POP IX	00240 ;DESTINATION - END OF SCREEN
00179 ;PUT SOURCE HL INTO IX.	00241 LD BC,SZSC
00180 PUSH DE	00242 ;SIZE - SCREEN FULL.
00181 POP IY	00243 LDIR
00182 ;PUT DEST. DE INTO IY.	00244 ;MOVE IT.
00183 CALL DPLY	00245 LD BC,SZSC-LLEN
00184 ;DISPLAY AND PAUSE.	00246 ;1 SCREEN FULL LESS 1 LINE.
00185 POP DE	00247 ADD HL,BC
00186 ;RESTORE UPPER HALF PTRS.	00248 ;RESET SOURCE ONE LINE ON.

00249	CALL DPLY	00311	DJNZ NSN5
00250	;DISPLAY AND PAUSE.	00312	;WHOLE SCREEN MOVED?
00251	POP BC	00313	CALL RESR
00252	;RESTORE LINE COUNTER.	00314	;RESTORE REGS.
00253	DJNZ NSN3	00315	RET
00254	;WHOLE SCREEN MOVED?	00316	;FINISH.
00255	CALL RESR	00317	:
00256	;RESTORE REGS.	00318	:
00257	RET	00319	:SCREEN 6 - 4 BAR ROLL DOWN.
00258	;FINISH	00320	SC6 CALL SAVR
00259	:	00321	;SAVE REGS.
00260	:	00322	LD HL,SBF6
00261	;SCREEN 4 - ROLL UP.	00323	:SOURCE - START OF SBF6.
00262	SC4 CALL SAVR	00324	LD DE,SSCN
00263	;SAVE REGS.	00325	:DESTINATION - START OF SCRN
00264	LD HL,SBF5-1	00326	LD B,10H
00265	;SOURCE - END OF SBF4.	00327	;NO. OF LINES/BAR.
00266	LD DE,ESCN-1	00328	NBR6 PUSH BC
00267	;DEST. - END OF SCREEN.	00329	;SAVE LINE COUNTER.
00268	LD B,NLIN	00330	LD B,4H
00269	;LINE COUNTER.	00331	;NO. OF BARS.
00270	NLN4 PUSH BC	00332	NLN6 PUSH BC
00271	;SAVE LINE COUNTER.	00333	;SAVE BAR COUNTER.
00272	LD BC,LLEN	00334	LD BC,LLEN
00273	;SIZE - 1 LINE.	00335	:SIZE - 1 LINE.
00274	LDOR	00336	LDIR
00275	;MOVE IT.	00337	:MOVE IT.
00276	CALL DPLY	00338	LD BC,200H-LLEN
00277	;DISPLAY AND PAUSE.	00339	:INC. FOR START OF NEXT BAR.
00278	POP BC	00340	ADD HL,BC
00279	;RESTORE LINE COUNTER.	00341	:POINT TO START OF NEXT BAR.
00280	DJNZ NLN4	00342	EX DE,HL
00281	;SCREEN FULL?	00343	;SWAP SOURCE AND DEST.
00282	CALL RESR	00344	ADD HL,BC
00283	;RESTORE REGS.	00345	:POINT TO START OF NEXT BAR.
00284	RET	00346	EX DE,HL
00285	;FINISH	00347	;SWAP DEST AND SOURCE.
00286	:	00348	POP BC
00287	:	00349	;RESTORE BAR COUNTER.
00288	;SCREEN 5 - PUSH UP.	00350	DJNZ NLN6
00289	SC5 CALL SAVR	00351	;4 BARS DONE?
00290	;SAVE REGS.	00352	LD BC,SZSC-LLEN
00291	LD HL,SBF5-1	00353	:DEC. FOR NEXT LINE.
00292	;SOURCE - END OF SBF4.	00354	OR A
00293	LD B,NLIN+1	00355	:RESET C-FLAG.
00294	;LINE COUNTER.	00356	SBC HL,BC
00295	NLN5 PUSH BC	00357	:POINT TO NEXT SOURCE LINE.
00296	;SAVE LINE COUNTER.	00358	EX DE,HL
00297	LD DE,ESCN-1	00359	;SWAP SOURCE AND DEST.
00298	;DESTINATION - END OF SCREEN	00360	OR A
00299	LD BC,SZSC	00361	:RESET C-FLAG.
00300	;SIZE - SCREEN FULL.	00362	SBC HL,BC
00301	LDOR	00363	:POINT TO DEST.
00302	;MOVE IT.	00364	EX DE,HL
00303	LD BC,SZSC+LLEN	00365	;SWAP DEST AND SOURCE.
00304	;1 SCREEN FULL PLUS 1 LINE.	00366	CALL DPLY
00305	ADD HL,BC	00367	;DISPLAY AND PAUSE.
00306	;RESET SOURCE ONE LINE BACK.	00368	POP BC
00307	CALL DPLY	00369	;RESTORE LINE COUNTER.
00308	;DISPLAY AND PAUSE.	00370	DJNZ NBR6
00309	POP BC	00371	;SCREEN FINISHED?
00310	;RESTORE LINE COUNTER.	00372	CALL RESR

00373 ;RESTORE REGS.	00435 ;DEC. TO RETURN TO TOP OF
00374 RET	00436 CURRENT COLUMN.
00375 ;FINISH.	00437 ADD IX,DE
00376 :	00438 :POINT TO TOP OF CURRENT COL
00377 :	00439 ADD IY,DE
00378 ;SCREEN 7 - L TO R SWEEP.	00440 :POINT TO TOP OF CURRENT COL
00379 SC7 CALL SAVR	00441 POP BC
00380 ;SAVE REGS.	00442 ;RESTORE PIXEL COUNTER.
00381 PUSH IX	00443 DJNZ NPX7
00382 PUSH IY	00444 ;SEE IF ALL PIXESS FINISHED?
00383 LD IX,SBF7	00445 INC IX
00384 ;POINT TO INCOMING BYTE.	00446 ;POINT TO NEXT COLUMN.
00385 LD IY,SSCN	00447 INC IY
00386 ;POINT TO REPLACED BYTE.	00448 ;POINT TO NEXT COLUMN.
00387 LD B,LLEN	00449 POP BC
00388 ;SET COLUMN COUNTER.	00450 ;RESTORE COLUMN COUNTER.
00389 NCL7 PUSH BC	00451 DJNZ NCL7
00390 ;SAVE COLUMN COUNTER.	00452 ;SEE IF COLUMNS FINISHED?
00391 LD H,0FFH	00453 POP IY
00392 ;PIXEL MASK TEMPLATE.	00454 POP IX
00393 LD B,4	00455 CALL RESR
00394 ;SET PIXEL COUNTER.	00456 ;RESTORE REGS.
00395 NPX7 PUSH BC	00457 RET
00396 ;SAVE PIXEL COUNTER.	00458 ;FINISH.
00397 SRL H	00459 :
00398 ;SHIFT MASK FOR RH. PIXEL	00460 :
00399 SRL H	00461 ;SCREEN 8 - R TO L SWEEP.
00400 ;PRESERVATION IN H-REG.	00462 SC8 CALL SAVR
00401 LD A,H	00463 PUSH IX
00402 ;PUT MASK INTO ACC.	00464 PUSH IY
00403 CPL	00465 LD IX,SBF8+1FH
00404 ;.NOT.MASK IN ACC.	00466 ;TOP OF R.H. COL.
00405 LD L,A	00467 LD IY,SSCN+1FH
00406 ;NOT.MASK IN L-REG. FOR	00468 ;TOP OF RH. COL. ON SCREEN.
00407 ;LH. PIXEL PRESERVATION.	00469 LD B,LLEN
00408 LD B,NLIN	00470 NCL8 PUSH BC
00409 ;SET LINE COUNTER.	00471 LD H,0FFH
00410 NLN7 LD A,(IX+ZERO)	00472 LD B,4
00411 ;PUT INCOMING BYTE INTO ACC.	00473 NPX8 PUSH BC
00412 AND L	00474 SLA H
00413 ;MASK OUT RH. PIXELS.	00475 SLA H
00414 LD D,A	00476 LD A,H
00415 ;SAVE LH. PIXELS.	00477 CPL
00416 LD A,(IY+ZERO)	00478 LD L,A
00417 ;PUT REPLACED BYTE INTO ACC.	00479 LD B,NLIN
00418 AND H	00480 NLN8 LD A,(IX+ZERO)
00419 ;MASK OUT LH. PIXELS.	00481 AND L
00420 OR D	00482 LD D,A
00421 ;LOGICAL ADD RH & LH PIXELS.	00483 LD A,(IY+ZERO)
00422 LD (IY+ZERO),A	00484 AND H
00423 ;UPDATE SCREEN.	00485 OR D
00424 LD DE,LLEN	00486 LD (IY+ZERO),A
00425 ;INC. BY 1 LINE.	00487 LD DE,LLEN
00426 ADD IX,DE	00488 ADD IX,DE
00427 ;POINT TO NEXT LINE/INCOMING	00489 ADD IY,DE
00428 ADD IY,DE	00490 DJNZ NLN8
00429 ;POINT TO NEXT LINE/REPLACED	00491 CALL DPLY
00430 DJNZ NLN7	00492 LD DE,BIG-SZSC
00431 ;SEE IF LINES FINISHED?	00493 ADD IX,DE
00432 CALL DPLY	00494 ADD IY,DE
00433 ;DISPLAY AND PAUSE.	00495 POP BC
00434 LD DE,BIG-SZSC	00496 DJNZ NPX8

00497	DEC	IX	00533	LD BC,HSZC	
00498	DEC	IY	00534	LDIR	
00499	POP	BC	00535	;MOVE BOTTOM HALF SCR. BUF.	
00500	DJNZ	NCL8	00536	DI	
00501	POP	IY	00537	LD A,TURN	
00502	POP	IX	00538	LD (IVEC),A	
00503	CALL	RESR	00539	;SET INTERRUPT VECTOR TO RET	
00504	RET		00540	;AS BOTH HALVES ARE MOVED.	
00505	:		00541	EI	
00506	:		00542	RET	
00507	;MOVE SCREEN BUFFER TO VRAM.			00543	:
00508	;DO IT IN TWO HALVES AS THE			00544	:
00509	;PROCEDURE IS INTERRUPT			00545	;INTERRUPT DRIVEN DISPLAY
00510	;DRIVEN AND MUST BE			00546	;ROUTINE. A PAUSE IS DONE
00511	;ACCOMPLISHED IN 4.49 MSECS.			00547	;SO THAT THE TOP AND BOTTOM
00512	;TO AVOID FLICKER.			00548	;HALVES OF THE SCREEN CAN BE
00513	;1K BLOCK MOVE TAKES			00549	;MOVED FROM THE SCREEN
00514	;6.09 MSECS. ON 3.54MHZ Z80.			00550	;BUFFER TO VRAM.
00515	;(NEAR ENOUGH!)			00551	;NB. BC REG. IS CHANGED BY
00516	;			00552	;THIS SUBROUTINE.
00517	MTOP	LD	HL,SSCN	00553	DPLY LD A,JMP
00518		LD	DE,VRAM	00554	LD BC,MTOP
00519		LD	BC,HSZC	00555	LD (IVEC+1),BC
00520		LDIR		00556	LD (IVEC),A
00521	;MOVE TOP HALF SCREEN BUFFER			00557	;SETUP INTERRUPT VECTOR.
00522		DI		00558	EI
00523		LD	BC,MBOT	00559	LD BC,DURD
00524	;SWAP INTERRUPT VECTOR			00560	;DELAY MSEC.
00525	;TO OTHER HALF.			00561	CALL DLAY
00526		LD	(IVEC+1),BC	00562	;DO A DELAY - DURING WHICH
00527		EI		00563	TIME THE VRAM IS UPDATED.
00528		RET		00564	DI
00529	:			00565	RET
00530	:			00566	;RETURN TO MOVE ROUTINES.
00531	MBOT	LD	HL,SSCN+HSZC	00567	END EQU \$
00532		LD	DE,VRAM+HSZC		

CHANGE GRAPHICS BY BRIAN GREEVE --

THIS PROGRAM IS INTENDED FOR PEOPLE WHO HAVE PRINTERS WHICH DO NOT RESPOND TO THE VZ ROM PRINTER CONTROL WITH REGARD TO GRAPHICS AND INVERSE TEXT. THE USE OF SUCH CAN DRESS UP A PROGRAM BUT CAN CAUSE SOME DIFFICULTY WHEN A PRINTED LIST IS REQUIRED.

WHENEVER I WANTED A LIST I WOULD HAVE TO GO THROUGH PROGRAMS AND PHYSICALLY CHANGE INVERSE TEXT TO NORMAL TEXT AND THE GRAPHIC SYMBOLS TO SOME STANDARD ASCII SYMBOL. I ALWAYS BELIEVE THAT THE COMPUTER SHOULD DO SUCH Tedious WORK SO THIS UTILITY WAS CREATED.

THIS PROGRAM LOCATES IN THE HI RES SCREEN MEMORY AREA - HENCE THE FLASHES ON SCREEN WHILE IT PROCESSES - AND IS INTENDED TO BE RUN WHEN THE PROGRAM TO BE PROCESSED HAS BEEN LOADED.

THE BASIC LOADER TAKES THE FORM OF OTHERS PREVIOUSLY PUBLISHED TO SIMPLIFY THE TASK OF LOADING THE DATA.

THE DATA VALUE 35 IN LINE NUMBER 70 DETERMINES THE SUBSTITUTION OF THE FIGURE # FOR ALL GRAPHIC SYMBOLS. THIS FIGURE CAN BE CHANGED FOR ANOTHER PROVIDING THE APPROPRIATE ASCII VALUE IS USED. (RANGE 33 TO 96 [DECIMAL]).

NOTE : VARIATION OF THIS VALUE WILL REQUIRE THE CHECKSUM DATA ERROR CONTROL TO BE OVERIDDEN.

IT IS SUGGESTED THAT THIS ALTERATION SHOULD ONLY BE TRIED AFTER THE PROGRAM DATA HAS BEEN CONFIRMED.

BASIC LISTING FOR CHANGE GRAPHICS

```

010 FOR I = -21937 TO -21713
020 READ A:POKE I,A
025 CHECKSUM = CHK+A:NEXT
027 :
030 DATA 62,195,50,193,121,33,102,170,34,194,121,205,201,1,33
032 DATA 17,171,205,167,40,195,25,26,58,156,120,51,51,183,121
034 DATA 193,250,84,59,202,58,3,229,245,33,155,120,52,126,254
036 DATA 79,32,7,54,0,62,13,205,186,58,241,225,254,13,32,7,62
038 DATA 0,50,155,120,62,13,183,250,154,170,195,186,58,203,119
040 DATA 40,58,230,63,245,197,213,229,111,38,0,62,18,205,186,58
042 DATA 6,4,229,209,183,237,90,16,252,229,193,33,148,59,9,62
044 DATA 255,205,186,58,6,5,126,35,205,186,58,16,249,62,255,205
046 DATA 186,58,62,30,205,186,58,225,209,193,241,201,197,71,62
048 DATA 18,205,186,58,120,230,15,229,203,39,79,62,30,145,79,175
050 DATA 71,33,175,2,9,126,71,35,126,79,120,205,186,58,205,186
052 DATA 58,205,186,58,121,205,186,58,205,186,58,205,186,58,62
054 DATA 30,205,186,58,225,193,201,13,84,65,78,68,89,32,80,82
056 DATA 73,78,84,69,82,32,80,65,84,67,72,32,76,79,65,68,69,68
058 DATA 13,0,0,0
060 :
075 IF CHECKSUM <> 25562 THEN PRINT"DATA ERROR":END
080 CLS:PRINT"SAVE TO DISK OR TAPE (D/T)"
090 A1$=INKEY$:A$=INKEY$:IF A$<>"D" AND A$<>"T" THEN S0
100 SOUND 30,1:IF A$="T" THEN 180
110 IF PEEK(16384) = 170,140
120 PRINT"NO DISK DRIVE TO USE"
130 GOTO 180
135 :
140 PRINT"INSERT DISK,CLOSE DOOR & PRESS RETURN"
150 IF INKEY$<>CHR$(13),150
155 SOUND 30,1
160 BSAVE"TANDY",AA4F,AB2F
170 END
175 :
180 FOR I = 29440 TO 29484
190 READ A: POKE I,A: NEXT
200 PRINT"INSERT CASSETTE.PRESS PLAY & RECORD THEN RETURN"
210 IF INKEY$ <> CHR$(13),210
220 SOUND 30,1
230 POKE 30862,0:POKE 30863,115:X=USR(0)
240 END
245 :
250 DATA 33,79,170,34,164,120,33,47,171,34,249,120
260 DATA 33,38,115,14,241,243,205,172,52,251,33,233,122
270 DATA 34,164,120,205,248,26,35,34,249,120
280 DATA 195,25,26,34,84,65,78,68,89,34

```

SOURCE CODE LISTING - - -

```

001 ;
002 : ##### CHANGE GRAPHICS #####
003 : TO CONVERT GRAPHIC CODE
004 : TO ALLOW PRINT OUT BY
005 : STANDARD PRINTER (TANDY)
006 : V 2 JUNE 29 89 ORG 7200H
007 ;
A568 CD C9 01      008     CALL 01C9H
A56E 21 E9 7A      009     LD   HL,7AE9H
A571 22 A4 78      010     LD   (78A4H),HL
A574 23           011     INC4 INC  HL
A575 23           012     INC3 INC  HL
A576 23           013     INC  HL
A577 23           014     INC  INC  HL
A578 7E           015     MP   LD   A,(HL)
A579 FE 22           016     CP   34
A57B 28 12           017     JR   Z,TEXT
A57D FE 00           018     CP   0
A57F 20 F6           019     JR   NZ,INC
A581 23           020     SZ   INC  HL
A582 86           021     OR   (HL)
A583 20 EF           022     JR   NZ,INC4
A585 23           023     INC  HL
A586 B6           024     OR   (HL)
A587 20 EC           025     JR   NZ,INC3
A589 22 F9 78           026     LD   (78F9H),HL
A58C C3 19 1A           027     JP   1A19H
A58F 23           028     TEXT INC  HL
A590 7E           029     LD   A,(HL)
A591 FE 22           030     CP   34
A593 28 E2           031     JR   Z,INC
A595 FE 00           032     CP   0
A597 28 E8           033     JR   Z,SZ
A599 FE 7F           034     CP   7FH
A59B 38 F2           035     JR   C,TEXT
A59D FE BF           036     CP   0BFH
A59F 38 09           037     JR   C,GRPH
A5A1 FE DF           038     CP   0DFH
A5A3 38 09           039     JR   C,INVA
A5A5 D6 C0           040     SUB  0C0H
A5A7 77           041     AA   LD   (HL),A
A5A8 18 E5           042     JR   TEXT
A5AA 3E 23           043     GRPH LD   A,23H
A5AC 18 F9           044     JR   AA
A5AE D6 80           045     INVA SUB  80H
A5B0 18 F5           046     JR   AA
BYTES FREE :- 22475 ERRORS : 00000

```

NOTE - - -

FOR YOUR CONVENIENCE BASIC LISTING IS PROVIDED ON PREVIOUS PAGE
 WHILE MACHINE CODE IS ABOVE LEFT AND SOURCE CODE LISTING IS ABOVE
 RIGHT.

29/13 COMPUTERS PLUS PRINTERS

FOR GENERAL USE THERE ARE TWO TYPES OF INPUT STANDARDS THAT PRINTERS AND COMPUTERS WORK UNDER. THESE ARE CENTRONICS PARALLEL AND SERIAL INPUT STANDARDS. MOST PRINTERS AND COMPUTERS HAVE ONE OF THE ABOVE STANDARDS BUILT IN WITH SOME HAVING BOTH. SOME PRINTERS AND SOME COMPUTERS LIKE THE VZ NEED A PRINTER INTERFACE TO WORK.

CENTRONICS PARALLEL . . .

THE VZ PRINTER INTERFACE CONVERTS VZ'S OUTPUT TO CENTRONICS PARALLEL AND WILL WORK WITH ANY CENTRONICS PARALLEL COMPATIBLE PRINTER OR PLOTTER, BLACK & WHITE OR COLOUR. THE VZ CANNOT PRINTOUT WITHOUT BEING CONNECTED TO A PRINTER VIA A PRINTER INTERFACE AND WILL NOT WORK WITH A PRINTER HAVING ONLY SERIAL INPUT.

SERIAL INPUT/OUTPUT . . .

SERIAL INPUT PRINTERS WILL ONLY WORK WITH COMPUTERS HAVING SERIAL OUTPUT PRINTER PORTS, BUT WITH SOME EXCEPTIONS. THE COMMODORE 64 IS ONE AS IT HAS A NON STANDARD SERIAL OUTPUT AND HAS TO NORMALLY BE CONNECTED TO A MATCHING COMMODORE PRINTER. THERE ARE WAYS AROUND THIS PROBLEM AS CENTRONICS PARALLEL INTERFACE CARTRIDGES CAN BE BOUGHT TO WORK WITH CENTRONIC PARALLEL INPUT PRINTERS.

USING VZ PRINTER INTERFACE . . .

MOST CENTRONIC PARALLEL PRINTERS WILL NOT PRINT OUT VZ INVERSE OR GRAPHIC CHARACTERS OR COPY A LO/HI-RES GRAPHIC SCREEN. THE ONE EXCEPTION THAT I KNOW OF IS THE GP100 WHICH IS NO LONGER AVAILABLE EXCEPT SECOND HAND AND HAS VERY LIMITED FUNCTIONS.

PRINTER PATCHES & MODIFIED ROMS . . .

THE FIRST PRINTER PATCH WAS WRITTEN BY JAMIE PERRY AND IT PRINTED OUT ALL INVERSE AND GRAPHIC CHARACTERS. IT WAS SLOW AS IT PRINTED ONE CHARACTER AT A TIME, BUT YOU NO LONGER HAD TO MODIFY TEXT BEFORE PRINTING WHICH WAS A BIG PLUS.

LARRY TAYLOR WROTE A VERY VERSATILE PATCH WHICH WAS MUCH FASTER AND HAD MANY MORE FUNCTIONS LIKE VERY VERSATILE LO/HI-RES SCREEN DUMPS. I USE IT TO PRODUCE BOTH HI & LO-RES SCREEN DUMPS FOR THE JOURNAL. IT COULD STILL BE AVAILABLE FROM JOHN D'ALTON AND IS WELL WORTH THE MONEY.

SOME MODIFIED BASIC ROMS WERE MARKETED BY LASERLINK. IT HAD ALL THE EXTENDED BASIC COMMANDS ACTIVATED AS WELL AS MODIFIED LLIST AND LLPRINT ROUTINES WHICH PRINTED OUT ALL INVERSE AND GRAPHIC CHARACTERS AND IS THE BEST ALTERNATIVE AS NO PATCHES NEED BE LOADED AND THE ROM'S FUNCTIONS ARE AVAILABLE AT POWER UP.

DMP & DAISY WHEEL PRINTERS . . .

DMP (DOT MATRIX PRINTERS) ARE MORE COMMON AND THEY USE A MATRIX OF PINS FROM 8 TO 24 TO FORM LETTERS, GRAPHIC OR INVERSE CHARACTERS AND THE MORE PINS THE HIGHER QUALITY PRINTOUT. DAISY WHEEL PRINTERS ON THE OTHER HAND USE FORMED LETTERS ON A PETAL LIKE IN A TYPWRITER AND PRODUCE HIGH LETTER QUALITY PRINTOUT BUT CANNOT BE USED FOR GRAPHICS OR INVERSE TEXT PRINTING ON THE VZ.

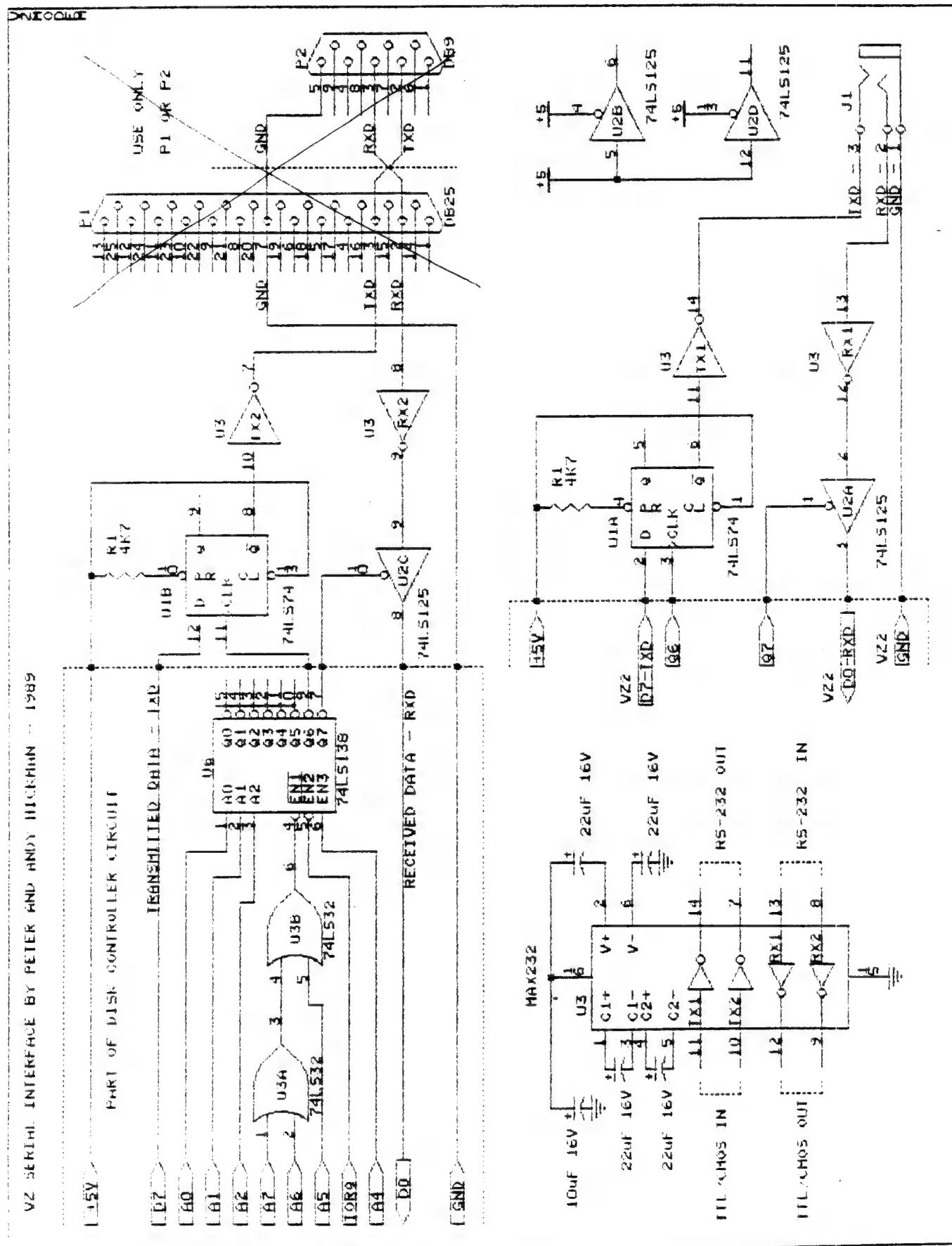
COLOUR PRINTERS OR PLOTTERS

THESE CAN BE USED WITH THE VZ, BUT THE USER MUST ENABLE THE COLOUR OPTIONS HIM/HERSELF AND TO THE BEST OF MY KNOWLEDGE THERE ARE NO PATCHES AVAILABLE WHICH WILL PRINTOUT HI & LO-RES SCREENS IN APPROPRIATE COLOURS. THE ONE PATCH THAT I KNOW OF IS FOR THE PRINTER PLOTTER WHICH WILL PRINT OUT HI-RES SCREENS IN FOUR COLOURS. IT MAY OR MAY NOT BE POSSIBLE TO CONVERT THIS FOR COLOUR DMP.

VZ 200/300 SERIAL INTERFACE

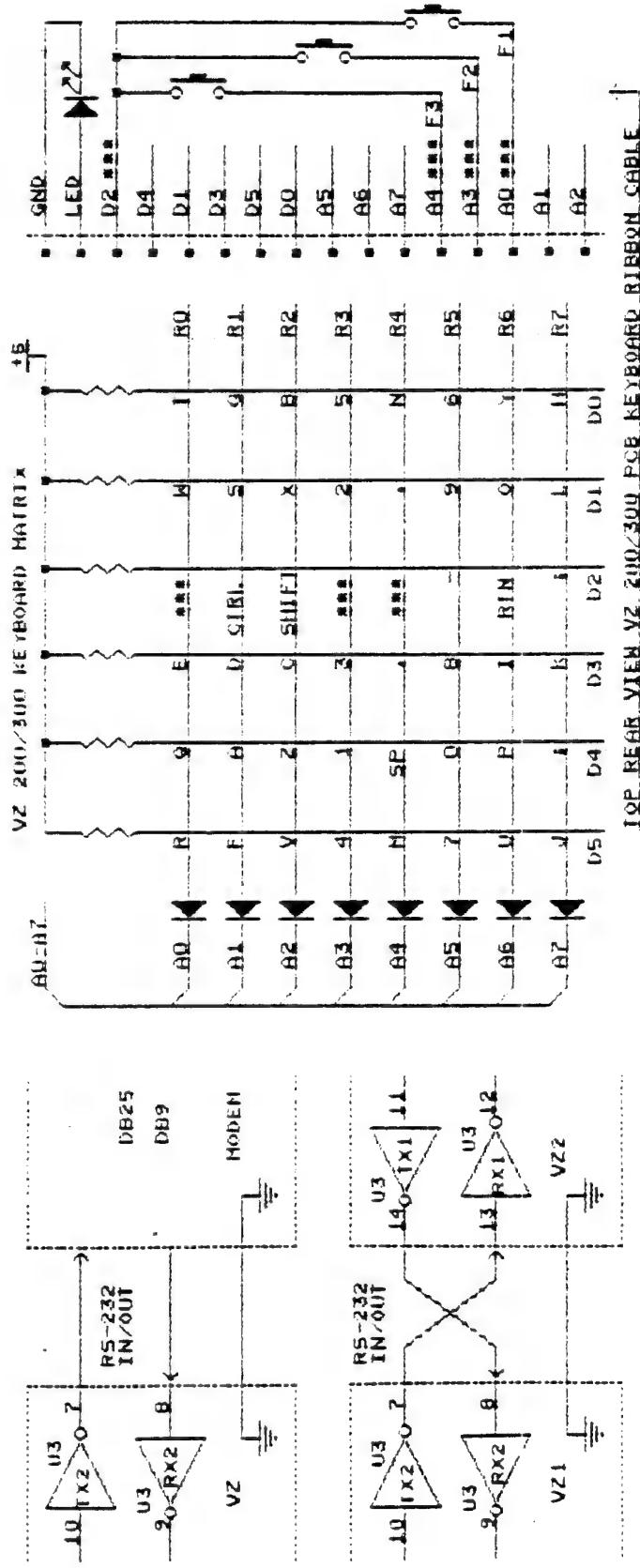
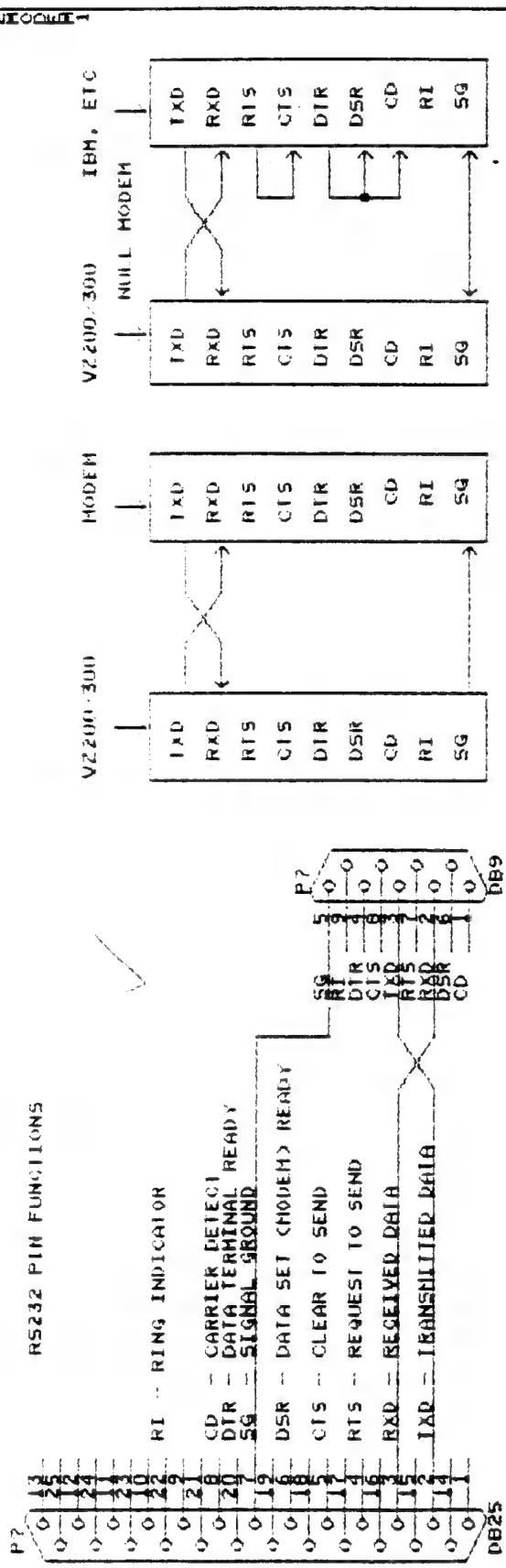
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BY PETER AND ANDY HICKMAN

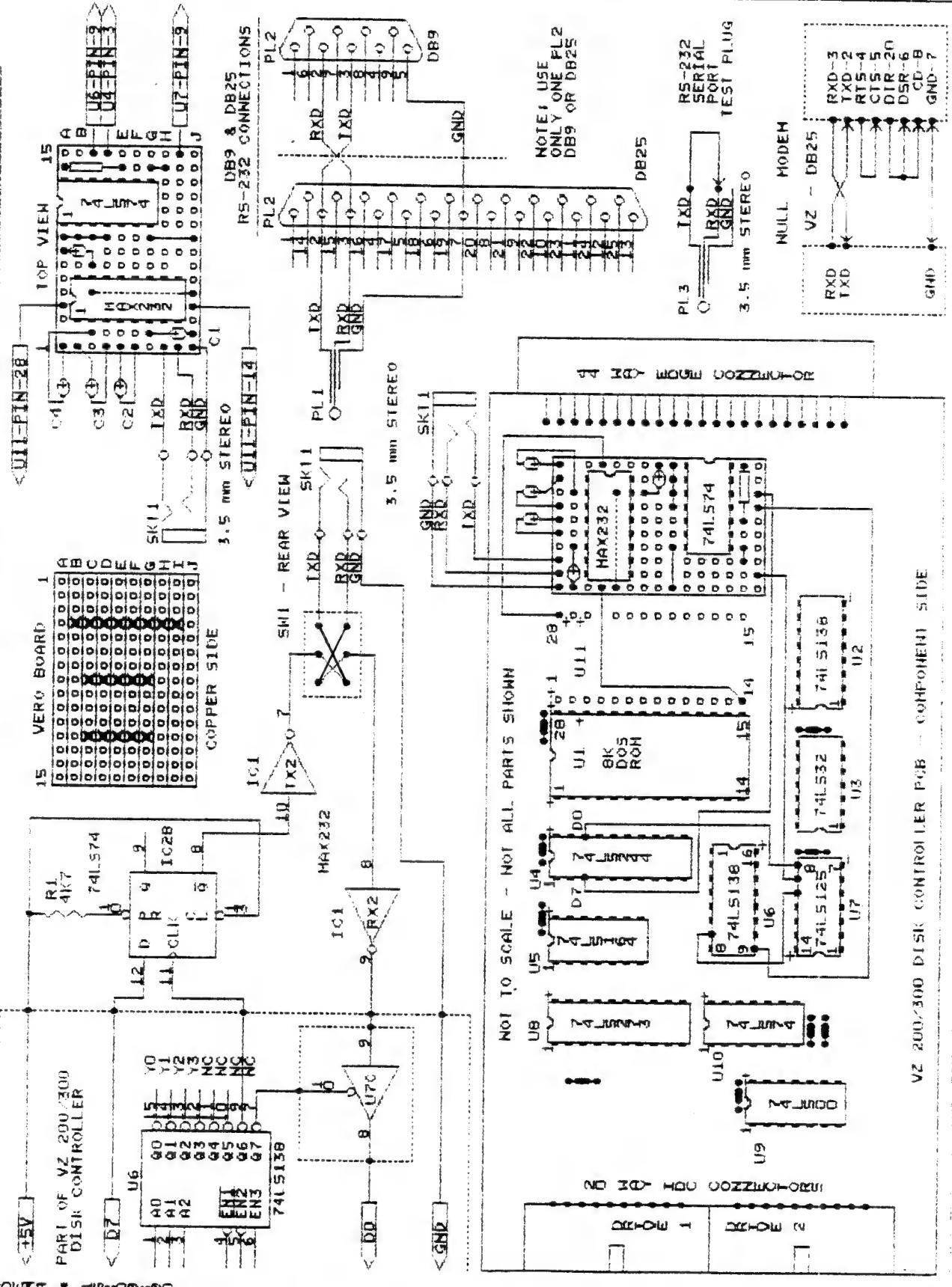


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**VZ 200/300 SERIAL INTERFACE
CONTINUED . . .**



V2 200/300 RS-232 SERIAL PORT CONSTRUCTION DETAILS BY JOE LEON



VZ SERIAL INTERFACE CONTINUED 29/16

LIKE MANY DSE VZ TERMINAL USERS PETER WAS FRUSTRATED BY ITS SEVERE LIMITATIONS SO IN CORROBORATION WITH HIS BROTHER ANDY THEY HAVE REDESIGNED BOTH THE SOFTWARE AND HARDWARE. AS DSE TERMINALS ARE PRACTICALLY IMPOSSIBLE TO BUY THIS PROJECT REPRESENTS A MUCH CHEAPER AND MORE FUNCTIONAL ALTERNATIVE.

NOTE : THE SOFTWARE FOR THIS SERIAL INTERFACE IS DISK BASED ONLY.

THE PARTS COUNT IS QUITE SMALL, JUST THREE CHIPS, 5 CAPACITORS AND ONE OR TWO CONNECTOR PLUGS. IT IS POSSIBLE TO BUILD THE CIRCUIT INSIDE THE DISK CONTROLLER BY PIGGYBACKING THE 74LS74 AND 74LS125 ON EXISTING CHIPS AND PLACING MAX232 CHIP NEAR THE EDGE CONNECTOR.

A 3.5MM STEREO SOCKET COULD BE USED AS ONLY THREE WIRES ARE INVOLVED, TXD (TRANSMIT DATA), RXD (RECEIVE DATA) AND GROUND. IT WOULD MAKE FOR A NICE COMPACT UNIT WITH NO BOXES TO PLUG IN. ALTERNATIVELY A SMALL BOX COULD BE USED BUT WOULD REQUIRE SIX WIRES, +5V, GND, Q6, Q7 (U6-74LS138), DATA LINE 0 & 7. IT CAN ALSO BE BUILT INTO VZ 200/300 BUT WOULD REQUIRE DUPLICATING DECODING CIRCUITRY.

THE 74LS138 (U6) DECODER IN THE DISKCONTROLLER USES ONLY FIRST FOUR OUTPUTS SO FOUR ARE SPARE AND THE LAST TWO OUTPUTS ARE USED FOR CONTROLLING THE SERIAL INTERFACE WHICH SAVES TWO EXTRA CHIPS. THE 74LS74 '0' TYPE FLIP FLOP PASSES DATA TO A SECTION OF A MAX232 (U3-T2) CHIP FOR TRANSMITTING TO A MODEM OR ANOTHER COMPUTER.

FOR RECEIVING A SECTION OF MAX232 (U3-R2) IS USED WHICH PASSES DATA VIA A 74LS125 (U2C) TRISTATE BUFFER TO THE VZ. DATA LINE ZERO (0) IS USED FOR RECEIVING DATA WHILE DATA LINE SEVEN (7) IS USED FOR TRANSMITTING DATA.

THE MAX232 CHIP HAS TWO TRANSMITTERS AND TWO RECEIVERS AND ONLY ONE OF EACH IS NEEDED FOR THE SERIAL INTERFACE. ONLY ONE OF TWO FLIP FLOPS (74LS74) AND ONE OF FOUR TRISTATE BUFFERS (74LS125) ARE USED. THAT MEANS A SECOND SERIAL INTERFACE CAN BE BUILT FOR PRACTICALLY NO ADDITIONAL EXPENSE. NORMALLY A DB25 PIN OR DB9 PIN PLUG IS USED FOR CONNECTING TO A MODEM OR ANOTHER COMPUTER.

THE SECOND SERIAL INTERFACE IS SHOWN BELOW THE FIRST ONE AND SHARES COMMON SIGNALS LIKE +5V, GND, Q6 & Q7. D0, D7 AND GND WOULD COME FROM SECOND VZ VIA A 3.MM SOCKET WHICH IS SMALL AND EASY TO FIT.

THE CONNECTION TO A MODEM OR ANOTHER COMPUTER WOULD NORMALLY BE VIA A DB25 OR DB9 CONNECTOR AND CONNECTIONS TO BOTH ARE SHOWN BUT ONLY ONE IS USED DEPENDING ON CONNECTOR YOU PLUG INTO.

THE MAX232 BLOCK DIAGRAM SHOWS THE FUNCTIONAL OPERATION OF THE CHIP. FOR COMPACTNESS TANTALUM CAPACITORS CAN BE USED EXSPECIALLY IF BUILDING UNIT INSIDE DISK CONTROLLER. A SMALL PIECE OF VEROBORD CAN BE USED TO MOUNT THE MAX232 CHIP AND CAPACITORS AND OR OTHER TWO CHIPS AS WELL.

THE Q6 & Q7 SIGNALS ARE TAKEN DIRECT FROM THE 74LS138 DECODER IN THE DISK CONTROLLER. ALL UNUSED INPUTS ON 74LS74 AND 74LS125 MUST BE TIED HIGH OR UNWANTED OSCILLATION COULD OCCUR. THERE ARE THREE CONSTRUCTION OPTIONS. INSIDE DISK CONTROLLER, EXTERNAL BOX OR INSIDE THE VZ AND I LEAVE IT TO YOU ON WHICH OPTION YOU ADOPT.

NOTE : YOU'LL NEED ANOTHER COMPUTER OR VZ WITH A RS232 SERIAL INTERFACE TO TEST UNIT OUT.

29/17 VZ SERIAL INTERFACE CONTINUED

BEFORE PROCEEDING TO TEST UNIT THERE ARE SEVERAL THINGS THAT NEED EXPLAINING. WE'LL START WITH DB25 AND DB9. YOU'LL NOTE THAT ON DB25 TXD IS CONNECTED TO PIN 2 WHILE RXD IS CONNECTED TO PIN 3. THE REVERSE IS TRUE FOR DB9. SOME EQUIPMENT COULD COME WITH DB25 OR DB9 CONNECTORS AND MY IBM PC COMPATIBLE HAS TWO SERIAL PORTS HAVING BOTH CONNECTORS.

AS FAR AS THE VZ IS CONCERNED ONLY THREE SIGNALS ARE USED WHICH ARE TXD, RXD AND GND. CONNECTING TO A MODEM IS STRAIGHT-FORWARD. JUST USE A DB25 OR DB9 CONNECTOR AND WIRE UP THE THREE SIGNALS ACCORDING TO THE CONVENTION. ON PAGE 15 BOTTOM LEFT YOU'LL NOTE TWO DIAGRAMS ON HOW TO CONNECT VZ TO A MODEM OR ANOTHER VZ.

THE TWO TOP RIGHT DIAGRAMS DEPICT FIRST AGAIN CONNECTING COMPUTER TO A MODEM. THE NULL MODEM DIAGRAM IS HOW THE VZ AND ANOTHER COMPUTER LIKE THE IBM PC SHOULD BE CONNECTED. THE OTHER SIGNALS ARE SHOWN FOR CLARITY.

NOTE: THE MATERIAL FOR THIS PROJECT CAME FROM PETER AND ANDY HICKMAN WHO DID AN EXCELLENT JOB IN DESIGNING BOTH THE SOFTWARE AND HARDWARE. I WOULD LIKE TO THANK LOCAL MEMBERS FOR THEIR HELP AND RESEARCH WITH ABOVE PROJECT. ED.

FUNCTION KEYS . . .

IN THE SOFTWARE PETER HAS MADE PROVISION FOR EXTRA FUNCTION KEYS. THEY CAN BE USED WITH ABOVE SOFTWARE OR YOU COULD WRITE YOUR OWN WHICH CAN GIVE YOU UP TO 12 EXTRA FUNCTIONS, FOUR PER KEY LIKE SOME OF THE OTHER KEYS ON THE VZ. ALL THE DISK WORDS COULD BE ACTIVATED JUST BY A KEY PRESS OR TWO.

AS YOU'LL NOTE BY THE KEYBOARD MATRIX THERE ARE THREE PHYSICAL LOCATIONS EACH MARKED BY THREE ASTERICKS WHERE KEYS HAVE NOT BEEN CONNECTED. IT IS FAIRLY SIMPLE TO CONNECT THREE FUNCTION KEYS IN THOSE LOCATIONS. THE BOTTOM RIGHT DIAGRAM SHOWS WHERE THE CONNECTIONS ARE MADE.

I WOULD SUGGEST ROUND PUSHBUTTON KEYS WITH ABOUT 3/8" TOPS AS SOLD BY VARIOUS ELECTRONIC SHOPS. THE KEYS COULD BE MOUNTED ON A NARROW PIECE OF VEROBORD AND IN THE CASE OF VZ300 PLACED JUST ABOVE THE KEYBOARD ON THE FLAT AND MOUNTED FROM UNDERNEATH. USING ROUND KEYS MAKES IT EASIER TO DRILL HOLES TO FIT THAN WOULD BE THE CASE FOR SQUARE TOPPED KEYS.

CONCLUSION . . .

WHEN COMPLETED, THIS VZ 200/300 RS-232 SERIAL INTERFACE WILL ALLOW YOU TO CONNECT IT TO A MODEM, ANOTHER COMPUTER AND TRANSMIT, RECEIVE AT 300 BAUD. DATA CAN BE PRELOADED FROM DISK BEFORE TRANSMITTING TO SAVE LOG ON TIME. THE SOFTWARE IS VERY VERSATILE AND PETER HAS GONE TO GREAT LENGTHS TO PROVIDE AS MANY FUNCTIONS AS POSSIBLE.

IT IS REFRESHING TO SEE NEW AND USEFUL PROJECTS MAKING AN APPEARANCE FOR THE VZ CONSIDERING THE PRESENT STATE OF THE VZ. WHILEVER THERE ARE PERSONS LIKE PETER AND ANDY HICKMAN AROUND THE VZ WILL SURVIVE. KEEP IT UP FELLAS.

FOR MORE INFORMATION ON ABOVE PROJECT OR SOFTWARE CONTACT PETER HICKMAN. FOR ADDRESS SEE HIS AD ON PAGE 18.

*
* LOOK !!!! --- PROGRAMS FOR SALE --- ALL NEW !!!!
*

<1> V Z D I S A S S E M B L E R
#####

WHAT, ANOTHER DISASSEMBLER? BUT, YOU HAVE ALREADY GOT ONE?
THIS ONE IS DIFFERENT!

THIS PROGRAM IS ENTIRELY WRITTEN IN MACHINE CODE. IT ACTUALLY RUNS ABOUT 40 TIMES FASTER THAN D.S.E.'S DISASSEMBLER (OR ANY ONE ELSE'S). IT WILL DISASSEMBLE ANY PROGRAM THAT YOU CAN BLOAD INTO MEMORY. IT WORKS WITH ANY VZ CONFIGURATION. IT DISASSEMBLES EVEN THE 88 EXTRA Z80 OPCODES THAT ZILOG DOESN'T ADMIT TO.

PRICE? ONLY \$25.00 - TAPE AND DISK VERSIONS AVAILABLE.

PRICE INCLUDES HARDCOPY MANUAL. INTERESTED? YOU MAY PURCHASE THIS PROGRAM FROM PETER HICKMAN, FOR ADDRESS SEE BELOW.

*
* BRAND NEW - VZ SERIAL INTERFACE PROGRAM - BRAND NEW
*

<2> V Z M O D E M S O F T W A R E
#####

DID YOU WANT TO TALK TO OTHER COMPUTERS VIA A MODEM? DID YOU BUY THE DSE TERMINAL EPROM, ONLY TO DISCOVER THAT IT ONLY WORKS WITH TAPE. IT ONLYAllows YOU TO PRINT FILES, NOT SAVE THEM OR SEND THEM!

YOUR PROBLEMS ARE SOLVED! THE HICKMAN BROTHERS, PETER AND ANDREW, HAVE A BRAND NEW PROJECT WHICH WILL ALLOW YOU TO SEND, RECEIVE & SAVE FILES VIA A MODEM. IT WORKS WITH DISK!

SALE PRICE \$25.00 ONLY

INCLUDED ARE INSTRUCTIONS FOR THE HARDWARE MODIFICATIONS.

A SMALL MODIFICATION IS NEEDED TO YOUR DISK CONTROLLER. YOUR USER GROUP MAY HELP YOU MODIFY YOUR COMPUTER TO USE THIS EXCITING NEW SOFTWARE! IF YOU HAVE THE FUNCTION KEYS MOD AS WELL, THEN YOU WILL BE ABLE TO SEND EXTRA ASCII CHARACTERS SUCH AS:-

{1}~_

THE MANUAL IS SUPPLIED ON DISK FOR YOU TO PRINT OUT WITH YOUR DISK VERSION OF E & F WORDPROCESSOR. IF YOU DO NOT OWN AN E & F WORDPROCESSOR PROGRAM, PLEASE ENCLOSE ANOTHER \$5.00 (TOTAL \$30.00) FOR PHOTOCOPYING AND POSTAGE OF THE MANUAL.

FOR PURCHASE OR MORE INFORMATION CONTACT:-
PETER HICKMAN P.O. Box 8, WERRINGTON N.S.W. 2760.

29/19 VZ USER GROUPS/PUBLICATIONS

CONTRIBUTIONS TO THE HUNTER VALLEY VZ JOURNAL :-

IF YOU ARE THINKING OF CONTRIBUTING TO THE JOURNAL THE PREFERRED FORMAT IS BASIC LISTINGS, WORD_PROCESSOR OR SOURCE CODE FILES ON TAPE OR DISK. FILES FROM THE FOLLOWING WORD PROCESSORS CAN BE ACCEPTED :-

E & F TAPE OR DISK PATCH 3.1-3.3, WORDPRO CARTRIDGE, WORDPRO PATCH AND ALL QUICKWRITE WORD PROCESSOR FILES.

WANTED TO BUY -----

64K RAM PACKS - CONTACT JOE LEON
22 DRURY STREET WALLSEND NSW 2287 --- PHONE (049) 51 2756

CLUB MEETINGS * ALL WELCOME *

FIRST FRIDAY OF MONTH - NO MEETING IN JANUARY 1990

VENUE - JESMOND NEIGHBOURHOOD CENTRE MORDUE PARADE JESMOND
(REAR STOCKLAND MALL - BIG W)

AUGUST 3 - COMPUTER SHOW WORKSHOP I

SEPTEMBER 7 - COMPUTER SHOW WORKSHOP II

MACHINE CODE & ASSEMBLY CONTINUED (MONTHLY)

FUTURE DEMONSTRATIONS -

EPROM PROGRAMMER & ERASER, AUCTION NIGHT - USING THE VZ, RITTY, ETC.
IF YOU HAVE ANY IDEAS FOR A DEMONSTRATION OR A SUBJECT THEN PLEASE LET
YOUR COMMITTEE KNOW.

CLUB COMMITTEE & SUBSCRIPTIONS -

PRESIDENT ----- ROSS WOODS --- (049) 71 2843

SECRETARY/EDITOR -- JOE LEON ----- (049) 51 2756

TREASURER ----- GARY BULLEY -- (049) 54 7561

COMMITTEE MEMBERS - COLIN BRIDGE - PETER JONES

SUBSCRIPTION TO - AUST. - 6 MONTHS \$11.00 - 12 MONTHS \$21.00
H.V.Z. JOURNAL - N. Z. - 6 MONTHS \$13.00 - 12 MONTHS \$26.00

HUNTER VALLEY VZ USERS' GROUP - PO BOX 161 JESMOND 2299
NEW SOUTH WALES AUSTRALIA

VZ USER GROUPS & PUBLICATIONS --

VZ DOWN UNDER - VZ MAGAZINE - 6 ISSUES - \$18.00 PER ANUM
HARRY HUGGINS 12 THOMAS STREET MITCHAM VICTORIA 3132

WAVZ - WESTERN AUSTRALIA VZ USER GROUP
GRAEME BYWATER P O BOX 388 MORLEY W A 6062

BRISBANE VZ USERS WORKSHOP - C/O 63 TINGALPA ST. WYNUM WEST 4178
SOFTWARE FOR SALE - DISK MENU

SAPPHIRE PRODUCTIONS - VZ DISK MAGAZINE - \$20.00 PER ANUM
CONTACT JASON OAKLEY PO BOX 600 TAREE NSW 2430

NOTE :- WHEN WRITING TO ANY ABOVE OR H.V.Z. USERS' GROUP FOR
INFORMATION PLEASE ENCLOSE A S.S.A.E. OR NZ 2 INT. REPLY COUPONS.

PATCH 3.3 WRITTEN BY DAVE MITCHELL WILL CONVERT YOUR E & F TAPE WORD PROCESSOR FOR FULL DISK USE WHILE RETAINING ALL ORIGINAL FUNCTIONS. BELOW ARE ADDED DISK COMMANDS & FUNCTIONS :-

LOAD, SAVE, ERASE, RENAME, DIRECTORY, INITIALIZE, UPDATE, DRIVE 1 & 2, SHIFTLOCK & IMBEDDED PRINTER CONTROL CODES PLUS CTRL+P WHICH BYPASSES PRINT MENU AND PRINTS TO SCREEN OR PRINTER. A ROUTINE IS ALSO PROVIDED TO CONVERT YOUR BASIC PROGRAM OR SOURCE CODE FILES INTO WORD PROCESSOR FILES.

PATCH 3.3 HAS PROVISION FOR IMBEDDING PRINTER CONTROL CODES IN TEXT AND FAST SAVING AND LOADING OF TEXT DATA TO AND FROM DISK USING BLOCK SAVE/LOAD TECHNIQUES. PRINTER CONTROL CODES CAN BE SAVED TO TAPE OR DISK.

BSTWP.F - THIS UTILITY PROVIDED WITH PATCH 3.3 WILL CONVERT BASIC PROGRAMS AND ED/ASS. SOURCE CODE FILES INTO WORD PROCESSOR FILES.

SYSTEM REQUIREMENTS - VZ 300 + 16K RAM PACK - VZ 200 + 26K

PATCH 3.3 IS COPYRIGHT TO AND ONLY AVAILABLE FROM :
HUNTER VALLEY VZ USERS' GROUP P.O.BOX 161 JESMOND 2299
N.S.W. AUSTRALIA - PHONE JOE LEON (049) 51 2756

PRICE - AUS/NZ AU\$20.00 - UPDATE - AUS-\$10.00 - NZ-AU\$11.00.
UPDATING AVAILABLE ONLY TO PREVIOUS PURCHASERS OF PATCHES.

FOR MORE INFORMATION WRITE TO H.V.VZ.U.G. ENCLOSING A SSAE.

EXTENDED DOS V1.3 - \$15.00

UPDATED VERSION WITH EXTRA COMMANDS ADDED :-

OLD COMMANDS - MERGE, DIRA, LDIRA, DIRB, LDIRB, OLD, OLD., DEC, HEX, STATUSA AND LSTATUSA. STATUSA AND LSTATUSA ALSO WORKS WITH VERSION 1.0 DOS.

NEW COMMANDS :-

MENU - LOADS AND RUNS BINARY OR TEXT MENU PROGRAM FROM DISK.
CODE - SIMPLIFIES USING PRINTER CONTROL CODES DIRECTLY OR FROM WITHIN A PROGRAM.
LTAB - IS FOR SETTING OF LEFT MARGIN.
MOVE - MOVES BASIC FILE FROM DISK TO CHOSEN MEMORY ADDRESS.
UPD - ERASES OLD FILE AND SAVES WITH SAME FILE NAME.

MENU/FILE COPIER - \$15.00

THIS UTILITY WILL READ YOUR DISK DIRECTORY AND PRESENT YOU WITH SEVERAL OPTIONS. USING THE CURSOR YOU CAN RUN/BRUN ANY PROGRAM OR SELECT FILE COPY, REN, ERASE, DRIVE 1 OR 2, ETC. BESIDES COPYING TEXT AND BINARY FILES ALL OTHER FILES CAN BE COPIED AS WELL EXCEPT FOR DATA FILES.

FOR PURCHASE OR INFORMATION CONTACT DAVE MITCHELL - (079) 27 8519
24 ELPHINSTONE ST. NORTH ROCKHAMPTON QUEENSLAND 4701

FOR INFORMATION OR DEMONSTRATION IN NEWCASTLE AREA CONTACT :-
JOE LEON - (049) 51 2756 - 22 DRURY STREET WALLSEND NSW 2287